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## PROCEEDINGS OF THE NEW YORK ENTOMOLOGICAL SOCIETY.

MEETING OF DECEMBER 21, 1897.

Held at the American Museum of Natural History.

President Palm in the chair. Ten members and several visitors present.

The resignations of Messrs. Pike and Kùchler were read and accepted.

Mr. Groth moved that the President appoint a committee to propose names for the officers for 1898. Accepted. Messrs. Beutenmùller, Zabriskie, Groth and Daecke were appointed to serve on this committee.

Mr. Shoemaker read a paper on "Sugaring for Moths," in which he stated that he had collected during the past summer at Aqueduct, Long Island, from June 16th to October 16th, and that he had taken 118 species of Noctuidæ on 26 trips, and amongst which were species of *Agrotis*, *Teniocampa*, *Scopelosoma*, *Cucullia*, *Plusia*, *Hadena*, *Mamestra*, etc. His method of collecting was to suspend dried apples that had been strung on a copper wire and soaked in the sugaring mixture. These were hung on bushes and small trees along thickets. While the usual bait of beer, molasses and rum was attractive to the moths, he found that adding a little asafoetida rendered the mixture still more attractive, and that the moths would prefer this mixture to the former. He stated that weather conditions most favorable to collect in were clear, dark nights with a light breeze, and that it made no difference if it was warm or cold. There were few moths flying on moonlight nights. During the summer he spent several days collecting in the same locality for Lepidoptera and took *Argynnia idalia*, *Pamphila pontiac*, *Chrysoph. thoë*, *Neonympha canthus*, *Acontia delecta*, *Doryodes bistriaris*, *Cilla distema*, and also pupæ of *Hydræcia neopina* in stalk of wild sunflowers.

Mr. Blackburn, exhibited a book of butterflies, which proved a novel way of mounting them. He explained that by taking some paper slightly gummed and pressing the wing between two pieces, all the scales would adhere to the paper and by painting in the body of the insect in its proper place, a perfect representation of the insect could be obtained. After discussion, adjournment.

MEETING OF JANUARY 4, 1898.

Held in the American Museum of Natural History.

President Palm in the chair. Twelve members present.

The Treasurer's Annual Report was read, approved and referred to the Auditing Committee.

The following officers for 1898 were elected. President, Dr. E. G. Love; Vice-President, G. F. Groth; Treasurer, L. H. Joutel; Recording Secretary, E. Daecke; Corresponding Secretary, Ernest Shoemaker; Executive Committee, Messrs. Zabriskie, Palm, Daecke, Hug, and Dr. Ottolengui; Publication Committee, Messrs. Beutenmùller, Joutel, Schaeffer and Groth.

Rev. Zabriskie exhibited a small Proctotrypid Hymenopteron, *Dryinus*, sp., with chelate anterior tarsi. He referred to the fact of the Hymenoptera being in general beneficial to man, because of their preying, as captors or parasites, upon injurious insects; the Proctotrypidæ being especially beneficial as parasites upon the

smaller insects, and largely upon insect eggs. The Dryinæ are said to confine their attacks to small hymenopterous insects such as Jassidæ, etc., and to live in small felt-like sacks protruding from the abdominal spiracles of the host. A curious feature found only in this one sub-family of hymenoptera, is that of the chelate anterior tarsi of the females. These chelæ are formed somewhat on the plan of the formidable pincers of the lobster, although relatively more slender. They are outgrowths from the inner side of the fourth tarsal joint and are of comparatively large size, so that when opened in a straight line, the expanse is nearly equal to the combined length of all five tarsal joints; when the two members of pincers are closed together, the lid is folded upward against the inner side of the first, second and third tarsal joints. They are probably used for holding the prey when the female is ovipositing.

Mr. Beutenmüller showed a number of remarkable Australian Hepialids from Mr. Schaus' collection; among which were *Zelotypia stacyi*, *Hepialus virescens*, *H. swainsonii*, *H. daphnandra*, *H. eximia*, *H. splendens*, *H. lignivorus* and *H. lewinii*.

Mr. Joutel spoke on the protective habit of *Cotalpa lanigera*. He stated that the beetle, which is bright yellow and a very conspicuous object, has the habit of drawing the edges of the leaves together with its claws, so that it is completely hidden. Several may be on the same bush, but from this habit not one will be seen. He also exhibited eggs of the common walking-stick. They very much resemble seeds, in color, size and shape. Adjournment.

#### MEETING OF JANUARY 18, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Eleven members present.

The Auditing Committee reported on the Treasurer's accounts as being correct.

Dr. Ottolengui spoke on the genus *Plusia* and pointed out the relative differences and doubtful nomenclature of various species of this genus.

#### MEETING OF FEBRUARY 1, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Twelve members and several visitors present, amongst which were Professor Smith, Messrs. Southwick and Ormond.

Mr. Joutel proposed Mr. W. T. Davis for membership.

The President appointed Messrs. Zabriskie, Palm and Beutenmüller, to form an auditing committee for 1898, and Messrs. Loss and Munch as the field committee.

Mr. Crampton spoke upon experiments upon the grafting of pupæ of Lepidoptera. He described in detail a series of experiments upon pupæ performed during the spring of 1897. These experiments, he added, were similar to those made by Dr. Born upon the coalescence of portions of different embryos of Amphibia. Besides the possibility of coalescence of two individuals or parts of individuals, there appeared in the Lepidoptera experiments certain other interesting problems, which related chiefly to the causes producing the magnificent colors of the imago. From the work of Mayer and others it has been shown that the pigmented colors are produced by the chemical decomposition of the hæmolymp in the empty scale cells. Hence, *a priori*, it might be possible to produce reciprocal color effects of one moth upon another differently colored moth by uniting the hæmolymp of each with that of the other. The problem of heredity involved in such cases, as *C. promethea* where the male and female

are of different colors is the question whether the gonad of a certain sex and the color, are both the effects of a common set of causes, or whether the color is more directly dependent upon the gonad of a certain sex. As the color is produced by a chemical decomposition of the hæmolymp, and as the hæmolymp can hardly escape being reciprocally affected chemically by the sexual organs, the second of the assumptions would be indicated.

The results so far obtained, however, do not warrant any final opinion upon this subject. The pupæ used were those of the common Saturnidæ, *Callosamia promethea*, *Platysamia cecropia* and *Telea polyphemus*. A cartilage knife or razor was used in cutting the pupæ. The two portions to be united were placed in apposition and melted parafine was applied with a camel's hair brush to the edges of the common wound. The cooled parafine formed a ring which kept the parts together and prevented the escape of the hæmolymp. Three groups of operations were recognized according to the make-up of the complex. First, where parts from two different pupæ were united in normal proportions.

Homoplastic operations upon *Cynthia* furnished three successful cases. Only one heteroplastic union was obtained. In this specimen a part of the abdomen of a female *promethea* was united to the rest of the body of a *cynthia*. The part of the imago derived from the *promethea* showed no trace of a red color, but was buff, the ground color of the *cynthia*. "Tandem" fusions formed the second group. In these a head was cut from one pupa and a part of the abdomen of the other, the parts being united on a long axis. The resulting moths possessed four pairs of wings and six pairs of legs. Heteroplastic and homoplastic.

Twin unions formed the third group. In these but little of each pupa was cut off. Moths joined by the heads, by their backs or tails or sides could be produced by corresponding operations. In some of the heteroplastic unions, however, was there any indications of reciprocal color effects.

In summary it was pointed out that homoplastic unions were easier to produce than heteroplastic ones. Eleven per cent. of the latter was successful, while fifteen per cent. of the former furnished imagines. The mortality was greatest among the pupæ of the first group, only six surviving the operation. The "Tandem" give a percentage of success of eleven. The "Twins" furnished twenty per cent. of successful operations. He hoped that future operations and experiments will furnish data for the solution of the problem of reciprocal color effects. After a lengthy discussion the meeting adjourned.

#### MEETING OF FEBRUARY 15, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Eight members present and several visitors.

Mr. Davis was elected an active member.

Mr. Beutenmüller exhibited specimens of the curiously formed butterflies, *Armandia lidderdali* and *A. thaidina*.

Mr. Joutel showed living specimens of *Ceruchus piceus* in decayed white birch. After discussion, adjournment.

#### MEETING OF MARCH 1, 1898.

Held at the American Museum of Natural History.

Vice-President Groth in the chair. Twelve members present.

Mr. Ditmars read a popular paper on the Transformations of Insects, and described in some details the main characteristics of the different orders. He also exhibited a series of prepared specimens of transformations preserved in alcohol and some anatomical models.

A brief note from Dr. Kunze on *Euchloë pima* was read by Mr. Beutenmüller. He stated that *pima* is single brooded and flies in Pima and Maricopa Co., Arizona, principally during March. Dr. Kunze took it also on February 28, 1898. *Pima* rifles the flowers of a hirsute plant called *Amsinckia spectabilis* and stated that he never observed it feeding on any other plants. It is difficult to differentiate between the sexes on the wing, as both are exactly alike in color. Besides the female is very scarce and about in proportion as 1 to 20.

Mr. Beutenmüller exhibited about 100 species of Sphingidæ from Mr. Schaus' collection. Amongst which were *Ambulyx substrigalis*, *A. rubicosa*, *Pterogon gorgonides*, *Sataspes infernalis*, *Maruba roseipennis*, *Amblypterus panopus*, etc.

#### MEETING OF MARCH 15, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Fourteen members and visitors, Messrs. Kearfott and Southwick, present.

Mr. Southwick read a paper on the economic entomological work done in the parks of New York City.

He enumerated and described in detail the various insects and the modes of destroying them, the scraping of the egg-masses and cocoons in winter and the spraying of the foliage in summer.

Mr. Southwick described the various emulsions for the destruction of insects, and stated that a mixture of London purple against the Elm beetle was very effective. The work against the beetle is begun about the middle of May by spraying and again about June 6th for their larvæ with an emulsion of soft soap, kerosene, carbolic acid and water. The various borers are treated with bisulphide of carbon. Fungi which promptly appear after trees have been wounded are scraped off and the affected places painted with celluloid. The bag-worm, *Thyridopteryx ephemeraformis*, formerly very abundant, has almost entirely vanished from the parks by effective work; similarly the scale-louse, *Pulvinaria innumerabilis*, formerly common in the parks, has almost entirely disappeared from that place. The speaker pointed out the effective work which is constantly in progress against a number of other injurious insects, such as the *Orgyia*, different species of *Datana*, *Hyphantria*, oyster-shell bark louse (*Mytilaspis*) and different Hackberry Galls (*Pachypsylla*).

In conclusion the speaker showed a number of tools used for economic entomological work, such as knives, scrapers, spraying nozzles, etc.

Mr. Palm exhibited some rare Coleoptera collected by Dr. Kunze in Arizona.

Mr. Kearfott showed a box of inflated larvæ. After discussion adjournment.

#### MEETING OF APRIL 5, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Ten members present.

Dr. Seifert spoke on experiments of heat and cold upon pupæ of Lepidoptera. He stated that larva exposed to an abnormal degree of heat or cold showed no visible

differences in the imago, pupæ, however, exposed to heat yield images of darker and more intense coloring; while such exposed to a longer period of abnormal cold will produce comparatively lighter effects. Excessive moisture causes a scarcity of scales and gives the wings a glassy semitransparent appearance. He exhibited a number of specimens produced by abnormal temperature.

Mr. Davis spoke on the dragonflies of Staten Island.

Mr. Beutenmüller exhibited a nest of *Vespa crabro* from Europe. This nest had evidently been built between the rafters of a house, being covered with a very brittle wood-pulp from which the resinous substance exuded, giving the nest a variegated appearance. Usually this species builds its nest in a hollow tree.

Mr. Groth exhibited a series of biological sets and transformations of Wasps. After discussion, adjournment.

#### MEETING OF MAY 3, 1898.

Held at the American Museum of Natural History.

Dr. Love in the chair. Ten members present.

Mr. Schaeffer made some remarks on the genus *Omus*, and exhibited *O. lecontei*, *edwardsii*, *sequoiarum*, *californicus*, *audouini*, *ambiguus* and *dejeanii*, all from the Museum collection.

Mr. Beutenmüller spoke on the genus *Euchloë* and pointed out that the American species may be placed into three groups according to venation, *Midea*, *Euchloë* and *Anthocharis*.

After discussion, adjournment.

#### MEETING OF MAY 17, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Ten members present.

The publication committee reported that they discussed the expediency of holding an auction sale of insects for the benefit of the JOURNAL.

Dr. Love proposed the following amendment to the constitution and by-laws:

"Resolved, That Article XVI be amended by inserting the words 'and September' after the word 'August' and by the omission of the word 'and' between the words July and August."

The resignation of Mr. Nushardt was read and accepted.

Mr. Dæcke gave some notes on *Thecla damon*, in which he stated that this creature had the habit of dropping to the ground when disturbed, and owing to its green and brown colors was difficult to detect amongst grass.

Mr. Beutenmüller, stated that the Museum collection of Coleoptera is now being arranged, and he estimated that it contained at least 150,000 specimens.

A general discussion of the species of *Cicindela* was held, after which followed adjournment.

#### MEETING OF JUNE 7, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Eight members present and several visitors.

Mr. Beutenmüller announced a donation by Mr. Schaus of \$50.00 to the JOURNAL fund and it was moved and accepted that the Secretary forward a letter of thanks to Mr. Schaus for this generous donation.

The amendment to the constitution and by-laws announced at the previous meeting was accepted.

Mr. Schaeffer proposed for active membership Messrs. Joseph E. Graef and F. A. Stinner.

A discussion on the species of the genera *Pamphila* and *Leptura* was held. Adjournment.

#### MEETING OF JUNE 21, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Eight members present.

Messrs. Stinner and Graef were elected as members of the Society.

Mr. Beutenmüller proposed Mr. W. D. Kearfott for active membership.

After a discussion on various topics the meeting adjourned until October.

#### MEETING OF OCTOBER 4, 1898.

Held at the American Museum of Natural History.

President Dr. Love in the chair. Eight members present.

Mr. Kearfott was elected as member of the Society.

It was moved and accepted that a vote of thanks be extended to Mrs. A. T. Slosson for a number of rare *Lepidoptera* which she donated for the auction sale.

Mr. Joutel made some remarks on a curious variety of *Spilosoma latipennis* which had yellow forelegs. He stated that these were bred from eggs of a specimen which had pink forelegs, the normal form.

Mr. Beutenmüller spoke on the observations made by Dr. Seifert on three closely allied species of *Arctia*—*nais*, *phalerata* and *vittata*, and proved the validity of these three species.